



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,453	05/02/2005	Hironori Takahashi	046124-5380	4138

55694 7590 02/25/2008  
DRINKER BIDDLE & REATH (DC)  
1500 K STREET, N.W.  
SUITE 1100  
WASHINGTON, DC 20005-1209

EXAMINER
----------

MONDT, JOHANNES P

ART UNIT	PAPER NUMBER
----------	--------------

3663

MAIL DATE	DELIVERY MODE
-----------	---------------

02/25/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/533,453	<b>Applicant(s)</b> TAKAHASHI ET AL.	
	<b>Examiner</b> JOHANNES P. MONDT	<b>Art Unit</b> 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 1, 3 and 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 5 and 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. Amendment filed 11/30/07 forms the basis for this Office Action. In said Amendment, Applicant substantially amended all elected claims 2, 5 and 6 by substantial amendment of independent claim 2. Claims 1, 3 and 4 remain withdrawn. Comments on Remarks submitted with said Amendment are included below under "Response to Arguments".

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. The term "porous" in ***claims 2, 5 and 6, through line 2 of claim 2***, is a relative term which renders the claim indefinite. The limitation "porosity of 70 % or more" (line 2) is not defined in a quantitative sense by the claim, because of a lack of specificity concerning the meaning of "%". The Specification does not define the meaning of percentage, for which the existing literature on porous substances and their quantified porosity shows at least two frequently used measures of percentage of porosity, i.e., % of volume, and % of surface area: while volume percentage is admitted by Applicant, for % as surface area see Wang et al ((US 2003/0060836 A1), especially [0194]), Srinivasan ((US 2003/0025008 A1), especially [0033]), Dellamary et al ((US 2002/0188281 A1), especially [067]), Patel ((US 2002/0130197 A1), especially [0048]), Weers et al ((US 2001/0046474 A1), especially [0070]), and Matsumura ((5,979,460), especially col. 3, l. 48+), for expression of porosity as surface area percentage (among

many other publications). Accordingly, the amendment now introduced to claim 2 is poly-interpretable as volume percentage and as surface area percentage, and hence renders the claim indefinite.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. ***Claims 2 and 5*** are rejected under 35 U.S.C. 102(e) as being anticipated by Landry-Coltrain et al (US 2003/0138608 A1).

*Landry-Coltrain et al* teach a deuteron generating target (i.e., material capable of generating deuterons through neutron capture by hydrogen; e.g., first of ink receiving layers: see [0113]) comprising: a porous base film having a porosity of 70% or more ([0019]), said porous (for porosity see [0019]) base film being mainly composed of halogen-containing organic compound (ink receiving layer; see [0013]) mainly (see [0029] and [0056]) composed of a halogen-containing organic compound (e.g., vinylbenzylchloride, methyl- $\alpha$ -chloro-acrylate ([0015]), or fluorinated ethylene propylene ([0062]) (meeting claim 5); and a deuterated (upon irradiation with neutrons (see [00113]) organic compound impregnated in at least part of said porous base film (second ink receiving layer of the same constitution) (see [0013]) (because deuterons

when produced in the layer irradiated with neutrons penetrate at least in part an abutting layer).

### ***Response to Arguments***

5. Applicant's arguments filed in Remarks submitted with said Amendment filed 11/30/07 have been fully considered but they are not persuasive. In particular, a difference in the summary of the telephonic interview conducted 11/30/07 is noted: counter to applicant's statement on page 5 of said Remarks, examiner only agreed to the possibility that porosity may be tacitly assumed to be based on volume percentage, and that examiner "will try to ascertain whether this is true" (see Interview Summary, mailed 11/30/07). Examiner has done so in preparation of the instant office action and found this not to be true: see Wang et al ((US 2003/0060836 A1), especially [0194]), Srinivasan ((US 2003/0025008 A1), especially [0033]), Dellamary et al ((US 2002/0188281 A1), especially [067]), Patel ((US 2002/0130197 A1), especially [0048]), Weers et al ((US 2001/0046474 A1), especially [0070]), and Matsumara ((5,979,460), especially col. 3, l. 48+), for expression of porosity as surface area percentage (among many other publications). Accordingly, the amendment now introduced to claim 2 is poly-interpretable as volume percentage and as surface area percentage, and hence renders the claim indefinite. Art rejections are provided subject to said noted indefiniteness, whereby examiner takes the broadest reasonable interpretation of the claim language to include both interpretations of volume and surface area percentage. It is furthermore noted that no one-to-one correspondence exists between the volume

percentage and the surface area percentage, if only because of the role of the pore size (diameter) in influencing volume/surface ratios. The grounds of rejection in this Office Action were prompted by these considerations and further search.

With regard to Applicant's comments in traverse of the rejections over Maksimchuk et al, counter to applicant's apparent interpretation of a non-liquid nature when parts of plastic penetrate as a result of bombardment into a porous underlayer, said parts (1) evidently are still in the condensed matter state after penetration, and (2) are clearly comprised of non-crystalline portions as a result of said bombardment. Therefore, said parts qualify as liquids. Therefore, applicant's traverse fails to persuade. Furthermore, the meaning of "impregnate" is broader than the one indicated by McGraw-Hill, as evidence, for instance, by Academic Press Dictionary of Science and Technology, which defines "impregnate" as "to diffuse, saturate, or permeate with another substance", a definition clearly met by the prior art as cited.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 3663

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHANNES P. MONDT whose telephone number is (571)272-1919. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Johannes P Mondt/  
Primary Examiner, Art Unit 3663